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09/853,372	05/11/2001	William E. Saver	01-704-US	5713

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EXAMINER

NGUYEN, TAM M

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,372

Applicant(s)

SAVER ET AL.

Examiner

Tam M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-116 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-37 and 81-106 is/are allowed.
- 6) ☒ Claim(s) 1-33 and 38-80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/11/01.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-33 and 38-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 recites the limitation "the desired softening point" in the last 2 lines of the claim. There is insufficient antecedent basis for this limitation in the claim. It is also unclear what softening point would be considered the desirable softening point.

The limitation "a desired softening point" in the last two line of claim 38 is indefinite because it is unclear what softening point would be considered a desirable softening point.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7, 13 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Boenigk et al. (5,262,043).

Boenigk discloses a process for preparing a softening coal tar pitch by feeding a coal tar pitch into an evaporative distillation zone at a temperature in the range of from 300-380° C and

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at a pressure below 1 mbar (.75 torr). The coal tar product contains about 3.8 % of mesophase content and content less than 50 ppm of benzo[a]pyrene (e.g. 20 ppm). It is noted that Boenigk does not specifically disclose that the output coal tar pitch has a softening point in the range of 140-300° C. However, the Boenigk process is similar to the claimed process in terms of feedstock and operating conditions. It would be expected that the Boenigk process would produce an output having a softening point as claimed. (See abstract; col. 1, line 56 through col. 3, line 63)

Claims 1-7, 12, 13, 18, 19, 49-55, 60, 61 and 66-69 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanks et al. (5,429,739).

Hanks discloses a process for preparing a high softening coal tar pitch by feeding a pitch, which can be a mixture of a coal tar pitch and a petroleum pitch, into an evaporative distillation zone at a temperature in the range of from 600-800° F (315-454° C) and at a pressure of from 50 to 1,000 micros of Hg. The coal tar pitch product contains less than 1 % of mesophase content and has a softening point of from 450-530° F (240- 277° C). The evaporative distillation apparatus (WFE) has layers of thickness in the range of from 0.01 to .1 inches (.25-25 mm). Since the output rate is at least 7 lb/hr/ft², it would be expected that the feeding rate would be greater than 7 lb/hr/ft². It is noted that Hanks does not specifically disclose that the output hydrocarbon mixture pitch has a B(a)P Equivalent less than or equal to 500 ppm. However, the Hanks process is similar to the claimed process in terms of feedstock and operating conditions. It would be expected that the Hanks process would produce an output pitch having the claimed B(a)P. (See abstract; col. 1, lines 38-54; col. 2, line 58 through col. 6, line 41; claims 8, 11, and 12)

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6, 8-11, 14-17, 56, 57, 62 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanks et al. (5,429,739).

Hanks does not disclose that the feed rate of coal tar pitch is in the range of 10-100 or 35-50 pounds/square area/hour. However, it would have been obvious to one having ordinary skill

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in the art at the time the invention was made to have modified Hanks by operating the process at the claimed rate because Hanks discloses that the output rate is greater than 7. Therefore, one of skill in the art would operating the process of Boenigk at any rate which is greater than 7 including 35.

Claims 10, 11, 16, 17, 58, 59, 64, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanks et al. (5,429,739) in view of Romey et al. (5,128,021)

Hanks does not disclose that the residence time of the feed coal tar pitch in the distillation zone is in the range of 1-60 seconds or 5-30 seconds.

Romey discloses an evaporative distillation process wherein the contacting time is less than 1 minute. (See col. 4, lines 13-14)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hanks by having a residence time of 5-30 seconds because the average contacting time of less than 1 minute is known by Romey to be effective in the evaporative distillation process. Therefore, one of skill in the art would operate the Hanks process at any time less than 1 minute including 30 seconds.

Claims 20-28 and 70-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanks et al. (5,429,739) in view of Kuechler et al. (5,360,848)

Hanks does not disclose that the output pitch is mixed with a plasticizer.

Kuechler discloses a method of making elastic by mixing a pitch with a plasticizer. (see col. 1, lines 15-20).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified to the process of Hanks by combining the output pitch with a plasticizer as taught by Kuechler because such combining would produce an elastic.

Hanks and Kuechler do not disclose that that plasticizer comprises coal tar and petroleum oil wherein the petroleum oil constitutes 30-60 % of the mixture.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hanks by using a plasticizer as claimed because it is known that a plasticizer can be a mixture of coal tar and petroleum oil. Therefore, one of skill in the art would use any plasticizer including the claimed plasticizer because any plasticizer would be effective to produce elastic when combining the plasticizer with coal tar pitch.

Claims 4, 8-11, 14-17, 49-59, 61-65 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boenigk et al. (5,262,043).

Boenigk does not disclose that the feed coal tar pitch (which is a hydrocarbon mixture) has a softening point in the range of 110 to 140° C. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Boenigk by using the claimed feed because one of skill in the art would operate the process of Boenigk by using a coal tar pitch having any softening point including the claimed softening point and it would be expected that the results would be the same or similar when using the claimed feed because of the similarities between the claimed process and the Boenigk process.

Boenigk does not disclose that the feed rate of coal tar pitch is in the range of 10-100 or 35-50 pounds/square area/hour. However, it would have been obvious to one having ordinary

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skill in the art at the time the invention was made to have modified Boenigk by operating the process at the claimed rate because one of skill in the art would operate the process of Boenigk at any rate which is effective to produce a soft pitch. Therefore, it would be expected that the results would be similar when using the claimed rate in the process of Boenigk.

Boenigk does not disclose that the residence time of the feed coal tar pitch in the distillation zone is in the range of 5-30 seconds. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Boenigk process by having a residence time of 5-30 seconds because Boenigk discloses that the average contacting time of less than 1 minute is known in the art. Therefore, one of skill in the art would operate the Boenigk process at any time less than 1 minute including 30 seconds.

Claims 12, 18, 60, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boenigk et al. (5,262,043) in view of admitted prior art

Boenigk does not specifically disclose that the film has a minimum thickness of 1 millimeter. However, the present specification indicates that any known WFE apparatus can be used in the process (see pages 9-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Boenigk by using a film having the claimed thickness because such thickness is known in the art and is effective in the evaporative distillation process.

Claims 20-28, 70-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boenigk et al. (5,262,043) in view of Kuechler et al. (5,360,848)

Boenigk does not disclose that the output pitch is mixed with a plasticizer.

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Kuechler discloses a method of making elastic by mixing a pitch with a plasticizer. (see col. 1, lines 15-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified to the process of Boenigk by combining the output pitch with a plasticizer as taught by Kuechler because such combining would produce an elastic.

Boenigk and Kuechler do not disclose that that plasticizer comprises coal tar and petroleum oil wherein the petroleum oil constitutes 30-60 % of the mixture.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Boenigk by using a plasticizer as claimed because it is known that a plasticizer can be a mixture of coal tar and petroleum oil. Therefore, one of skill in the art would use any plasticizer including the claimed plasticizer because any plasticizer would affect to produce elastic when combining the plasticizer with coal tar pitch.

Claims 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boenigk et al. (5,262,043) in view of McHenry et al. (5,746,906)

Boenigk does not disclose that the coal tar pitch is a mixture comprising petroleum pitch and at least 50% coal tar pitch.

McHenry disclose a pitch comprising 90% of coal tar pitch and 10% of petroleum pitch. (See col. 2, lines 2, lines 20-30)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Boenigk by using a blend pitch as taught by McHenry because the blend pitch is effective to use in aluminum anode production.

Allowable Subject Matter

Claims 29-33 and 38-48 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 34-37 and 81-106 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: No prior art of record discloses or renders obvious a process wherein a pitch having a softening point of from 70 to 160° C is heated in a vessel to a temperature in the range of 300 to 600° C and at a pressure of less than 5 torr to produce a distillate which has a softening point of from 25-60° C and being quinoline insoluble-free and ash-free. The distillate is then heated to a temperature in the range of 370 to 595° C for between three and forty hours.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452.

The examiner can normally be reached on Monday through Thursday.

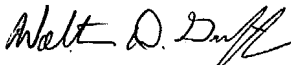
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen
Examiner
Art Unit 1764

TN


Walter D. Griffin
Primary Examiner